TITLE:

Does arterial ageing differ between Europeans and Japanese and Korean patient samples? Results from current UK studies.

AUTHORS:

KIRKHAM FA[1], MILLS C[3], NAMBIAR K[1, 2], TIMEYIN J[1], DAVIES KA[1, 2], KERN F[2] , CRUICKSHANK JK[3], RAJKUMAR C[1, 2]

AFFILIATIONS:

1 – Brighton and Sussex University Hospital Trust, East Sussex, UK
2 – Brighton and Sussex Medical School, University of Sussex, UK
3 – Guys and St Thomas' Hospital, King's College and King's Health Partners
Corresponding author: C RAJKUMAR, c.rajkumar@bsms.ac.uk

TEXT:

Objective: Vascular stiffness has long been linked with the ageing process. However, it is only since the development of accurate methods for measuring arterial compliance that unravelling this relationship has become possible. Arterial stiffening over time appears to differ between ethnic groups and/or geographic areas. We investigated how the cardio-ankle vascular index (CAVI) varied with chronological age to make initial comparisons of its change with age between this European study and published data from Japanese and Korean patient populations.

Method: 312 participants (180 men, 132 women), age 63.7±12.9 (mean±SD), range 25-92 years. The following were measured: CAVI using VaSera VS-1500N® (Fukuda Denshi, Japan); brachial BP using OMRON705-IT; baseline characteristics and physical examination of cardiovascular health. These data are from current UK studies of healthy volunteers with approximately 20% having two or more cardiovascular risk factors.

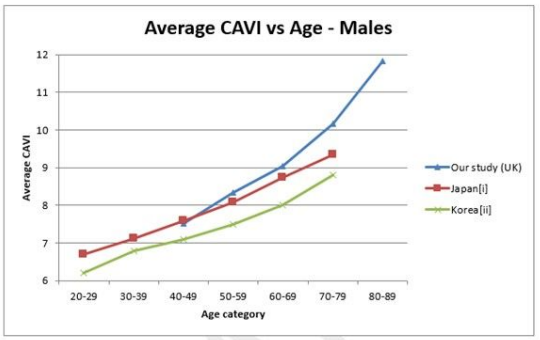
Results: CAVI was significantly correlated with age ($r=0.63$, $p<0.001$), more closely in men ($r=0.71$, $p<0.001$) than women ($r=0.54$, $p<0.001$). These data were used to create a preliminary set of 'usual' average CAVI values for each age category (Table) and compared against data from Japan[1] and Korea[2] (plot 1 & 2). Korean men had lower CAVI values at each age.

Conclusions: This suggests CAVI is closely related to ageing and may be a useful indicator of vascular age. In initial comparisons, the slope of arterial 'ageing' may be steeper for Europeans, especially men over 60 years, than for Japanese and particularly Koreans, but detailed analysis has not yet been done due to lack of raw data.

Table

Age category (years)	CAVI Mean (SD)
<40	6.83 (0.76)
40-49	7.22 (0.86)
50-59	8.20 (1.29)
60-69	8.87 (1.24)
70-79	9.60 (1.36)
80-89	11.11 (1.60)

Plot 1



Plot 2